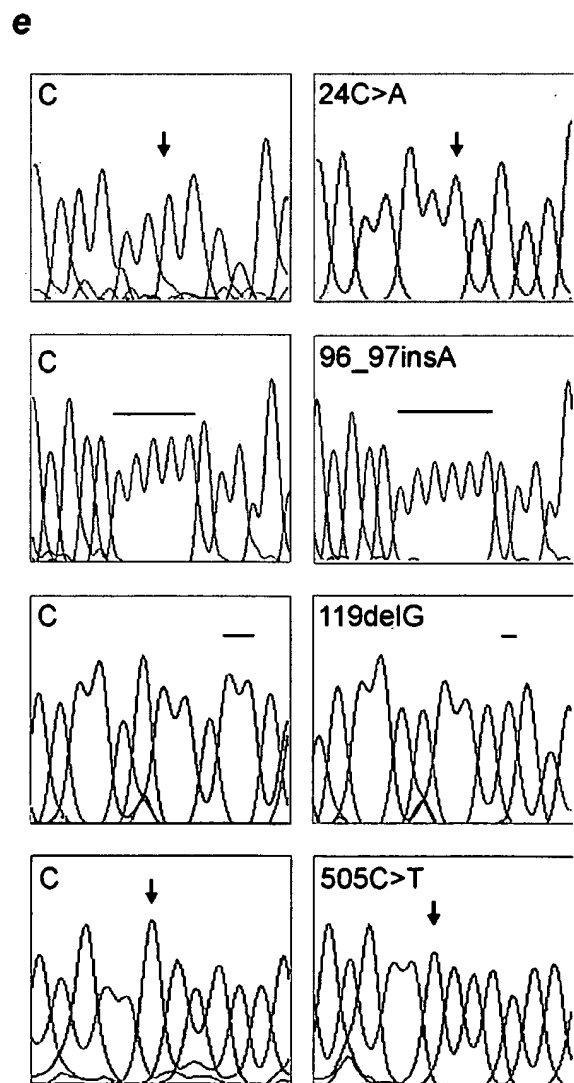
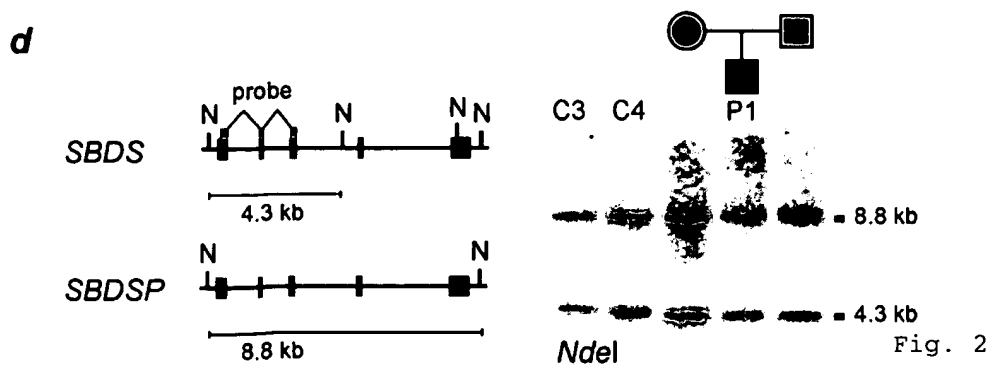
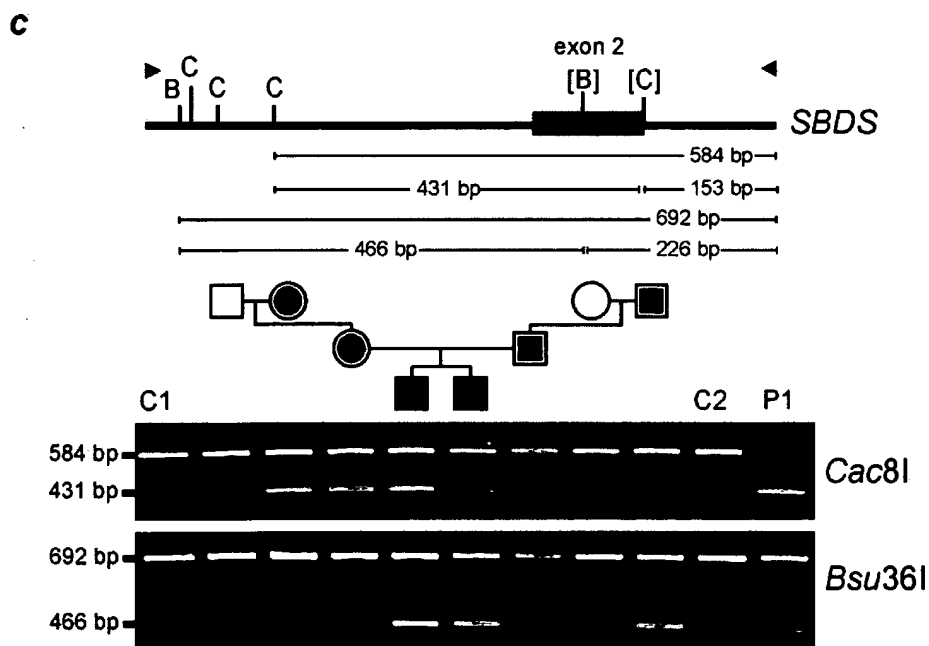
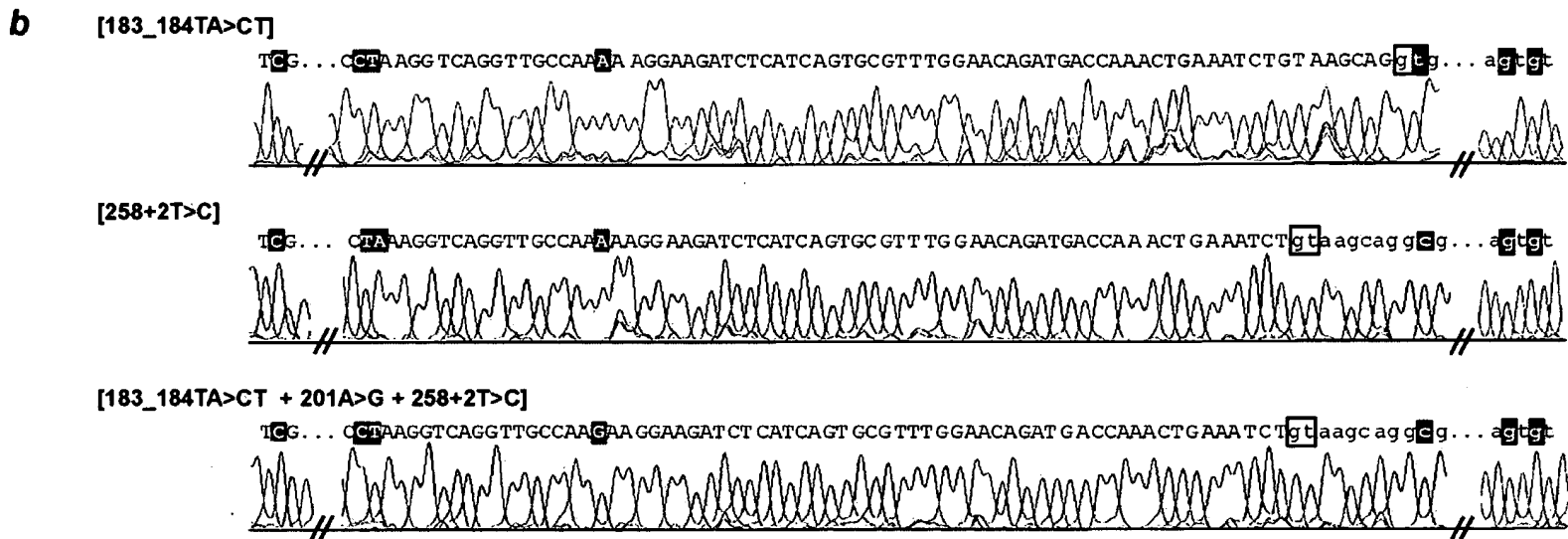
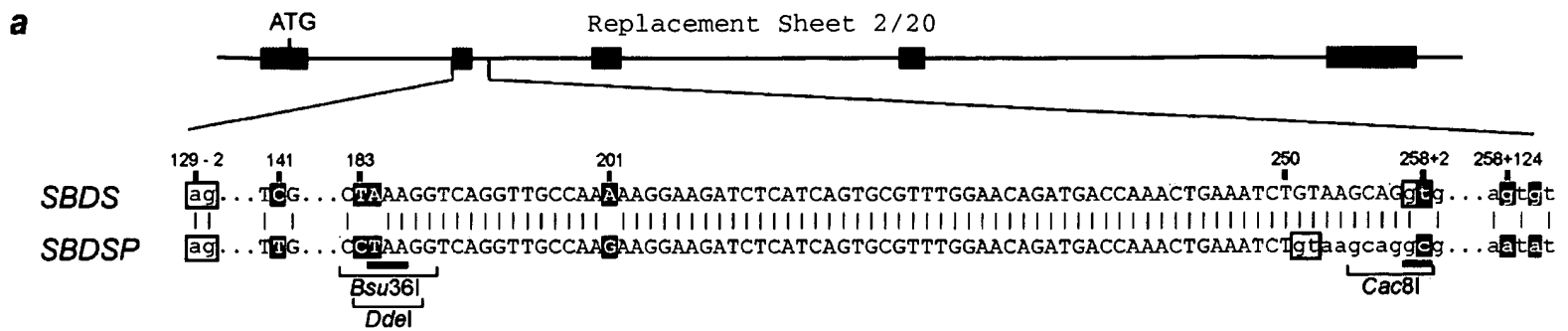


Fig. 1



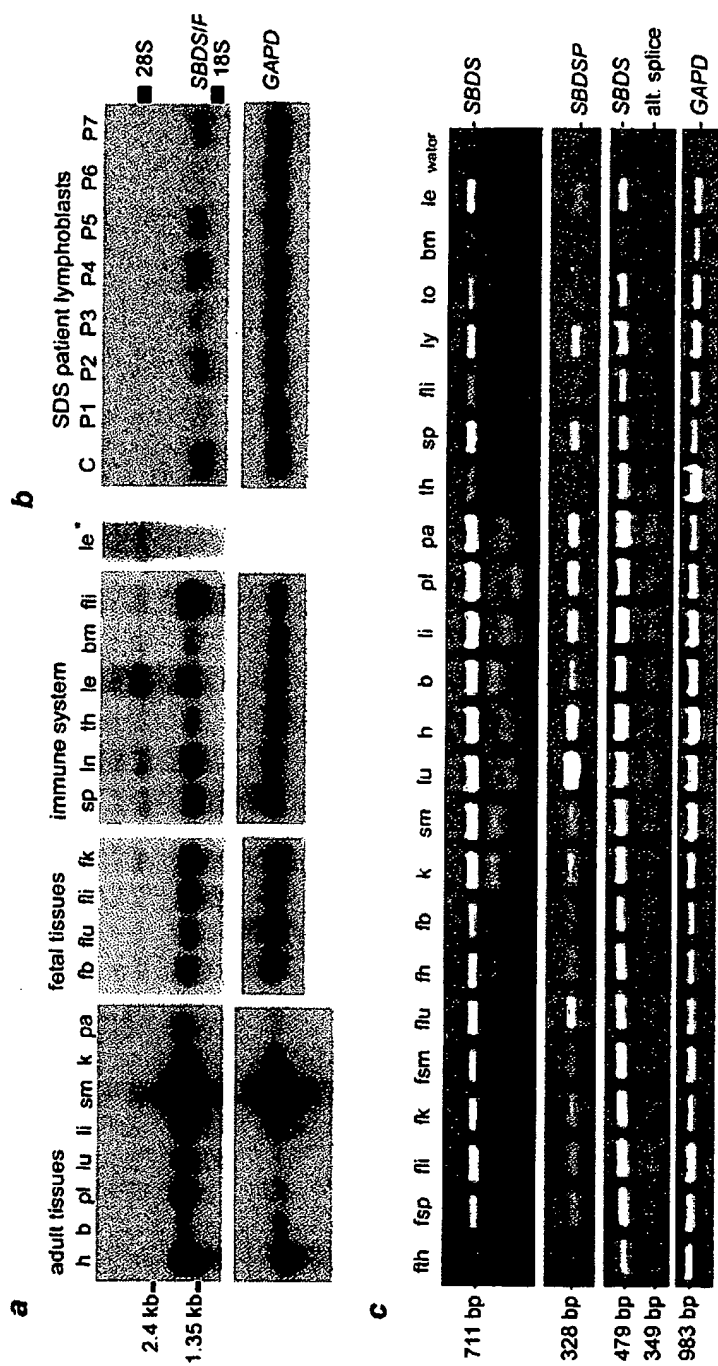


Fig. 3

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SEQ ID
NO: 2

	N8K	N34fs15	S41fs15	E44G	K62X	K67E	I87S
							84Cfs31
Ath	MSKTLVQPVGQKRLTNVAVVRLKKQGNRFEIACYKKNVLSWRSGV-EKDI	DEVLQ	SHTSVYNSVSKGVLAKSKDLMKSEFGSDHDTKICIDI				
Dme	MSK-IETPTNQIRLTNVAIVRLKKGGKRF	EIACYKKNVLSWRSNS-EKDI	DEVLQ	HTHTVTNVS	KGQAQAKKDLQKAFNKTDETEICEKI		
Cel	MSKNIKTPTNQKVLTNVAVVRMKTGKRFEIACYKKNVWNRNKS-EKDI	DEVLQ	HTHTVFSNVSKGQLSKKEELIAAFGIEDQLEICKII				
Mmu	MS--IETPTNQIRLTNVAIVVRMKGKRF	EIACYKKNVGVWNRSGV-EKD	DEVLQ	HTSVFVNSVSKGQVAKKEDLISAFGTDQDTEICKQI			
Hsa	MS--IETPTNQIRLTNVAIVVRMKGKRF	EIACYKKNVGVWNRSGV-EKD	DEVLQ	HTSVFVNSVSKGQVAKKEDLISAFGTDQDTEICKQI			
Ola	MS--IETPTNQIRLTNVAIVVRMKGKRF	EIACYKKNVMSWRTGA-EKD	DEVLQ	HTSVFVNSVSKGQVAKKEDLISAFGTDQDTEICKQI			
Sce	MP--INQPSGQIKLTNVSIVRLKKARKRFEVACYNKVQDYRKGI-EKD	DEVLQ	IHQVFNVSKGLVANKEDLQKCFGTTNVDDVIEEI				
Ecu	MTPTLNQKKLVNSIVTLLKKGRRYELAVYNPKLYEYRNGM-RTPLSEI	LDQDTIYRSVSKGEIARQGDLDLFCRT--HEEIVREI					
Mac	MVSLDEAVTARLRKSGKHFEVLVEPEGALYKRG	E-VNLEDI	LAVETIFEDANRGDRAAESDILNSFETTPDFEIAAVI				
Hnr	MI SLDDAVTARLETHGERFEVLVDPDAALEMRRDEFDGELTDVIAARD	VFNASRGDRPAESDLETFTGTEPLEIIP	EV				
Mth	MVSLDEAVTARLESHGERFEVLVDPDPLAAE	FRREDS	DVSVEDVLAVQEVFRDARKGDKKASEAMRVFETADPLEVTPVI				
Mka	MARVLEDAVVARLEKGGREFEVLDP	EGARKFREGE-DVDV	EEILAVEQVFRDARKGERASEQAMEELFGTSDPIKVAEVI				
Mja	MGRDMVSLSEAVIARYTSHGKFEFLVD	PLYLAALKKEGQ-NVDF	DELLAEVFRDASKGGEKAPELLSKI	FGTDPVKEIAKKI			
Afu	MVSLDKAVIARLRKGGEEFEVLVD	PLYLARDLKEGK-EVNF	EDLLAAEEVFKDAKKGERASVD	ELRKIFGTD	DDVFEIARKI		
Pab	MPISVDKAVIARLVHGETFEELVD	PLYLARDLKEGK-EVFE	ELLATPYVFKDAHKGDKASEKEMEKI	FGTSD	PYEVAKII		
Tac	MVKVEDAVIARLESHGYHFEFLVD	PDIAERIRKGN--ID	ENLEDLAFPEVYVDKVRKGEASD	SLKAEKAFVTGTVIAQVAIEI			
Pae	MTKKVAVAKLDKGGGEHFEILI	DPDALELMGK-PLGID	KVLVHEEIIYKDAKKLRASEQALKKVF	GGTVDVRKIAEII			
Sso	MTKERDYVIVKYESHGERFEELAK	PKEALAFRSGK-SISL	SDVVVSDTIYKOVKKGLKASPASLKKV	FGTDP	FETIVKEI		
Ape	MAHMEVVRGKRFEILVR	PELAFRYKEG-DVD	LEDVLTDTITIVRDVRKGLKASPEEVKKA	FGTSD	PPRVAEII		

D97_K98delinsEVQVS R126T R169C

Ath LEKGEQLVQAKERESQFSSQFRDIATIVMOKTINPETQ-RPYTISMVERLMHEIHFAVDPHSNSKKQALDVIRELQKH--FPKRSMPRL
Dme LSKGELQVSEKERQSCLDTLQNSITVNSVAALCVNPETK-RPYPASIEKSLDKAHFVSVKMRNTKQNTLEAIKILKDH--MPIERSRMKL
Cel LDNGDLQVSEKERQASDOSLKEVQSQIASMVVNPETK-RPVFSPVIDKALQEMHFSKPNRSSKQALDAI PKLRET--LKI ERAHKMI
Mmu LTKEGVQVSDKERHTQALQMFRIADIADVADKCVNPETK-RPYTVILIERAMKDIHYSVKPNKSTKQQALEVIKQLKEK--MKIERAHMRL
Hsa LTRKEGVQVSDNERETQLEQMFRIADIADVADKCVNPETK-RPYTVILIERAMKDIHYSVKTNKSTKQQALEVIKQLKEK--MKIERAHMRL
Ola LAKGELQVSDKERQTLQETMFRIADIADVADKCVNPETK-RPYFVSMIERAMKDIHYSVKPNKSTKQQALEVIKQLKET--MEIQRAHML
Sce MHKGEIQLSKERQQLMLNKVNNEMLTIVSLKACINPVSK-KRYFPTMIHKLQELKFSVNIKPAKLOALEAIKILVSKQIPIVRAKMKV
Ecu LDCGYEQKSEATRVYEQEKETERETQVILRNKVTYRGRH---LSASLEAIGKLVHN---IYVGNSSKQSQELLSLKEKM---FDRVGV
Mac LKSGELQLTAEQRKAMLEBKKKVYITISRNAINPQTR-APHPPARIERAMEEAKVHIDPLKSVQDLVTITMKAIRPL--IPIRFEEINI
Hnr IQGGEIQTADQREAMQQRKKRSINTISRNAINPQDGAHPDPDRIEALDEAGFTVDPTPADEQVDDALEALRPV--IPIRFEEITV
Mka IKEGEIQLTAEQRRLMEQVKRKIIHIIARRAVDPTG-AEPHPRIERAMEEAGVHIDEMKSAEEQVKQDVIKQLRPV-LPMKFEEYKV
Mja ILKGQVQLTAKOREEIREQKKRQIITII SRNTINPQTD-TPHPHRIERAMEELRIMDIYKSAEEQVEIVKVLKKVY--LPIRFEKRD
Afu ILEGEVQITAEQRREMLEAKRKQIINFSRNTIDPRTN-APHPPSRIERALEAKVHIDI FKSVAEQVKDVIKALKPI--LPLKFESMEI
Pab LKKGELVQLTAQRREMLEEKQKQIATIIHRAVDPTG-YHPVSDIRLAMEEVGVHIDFKDAEQVQDVIKAIRPI--LPLRIEMKVI
Tat VKKGQITLTTEQRREMYDEARRQIVNLIAREGINPQTN-THPTVYRISQAMEEAKVHIDPLKPAEDQVQVNLKAIMPI--IPIRLEKAKI
Pae IKEGEIPLTAEQRRLIEDKKRQIVEWISRNCDIVRTK-TPVPPQRVENALEQARVSDPFKSVEEQVQVLEIKIQR--IPIKVATARV
Sso LKGEIPLVTAEQRKMELETKKRQIIDPIHRAVDPTN-LPIPTRLNAMEQARQIDLNKDVEAQAMQIVKEISKI--IPIKIRALL
Ape LKEGEIQLTSEQRRLLEAKRKQIISYIARNAIDPTTG-RPIPEARIEAALLEEVFRPINLWRDAESQAVEAVRLIARV--MPIRLARALL

* : * : * : *

I212T

Ath	RLTVPVQNFPP-SLLEKLKEWDGSSVSKDES--GTQMSTVCEMEPGLFRECDSHVRSIQ---GRLEILAVSVHAEGETSMDHYDEHDDMAL
Gar+	RLTVPQGNFHF-SLCEKLNLEWGATVSKDES--GTQLSVICIEPGLFRECDSLVRNLQ---GRLEILAVSVHAEGETQVDNYDD-EDISS
Pba+	GLTVSGQNFSS-TLLEKLGAWDANVVSKEDES--GSRQSIICEMDPGFFRCDCLAVRNLQ---GRLEILAVSVHFEEDTHVDDYDDYDVAS
Dme	RVSFAGKEGGKLLKESVVKLANAVHDEWD--EATLHLLTLLDPGOYRVIDELVRNETKGKGLLELLEKLKVEVESEELF
Cel	RVAIPTEKAK-SVHTKLKTLFSDVEVDQWQ--DGSLEMVGLIEPGSFRALDDLVRNETKGHGRLEILSLKDVVEGELQIS
Mmu	RFTLPVNEGK-KLKEKLLPLMKVVESEDSY--CQ-LEIVCLIDPGCFREIDELIKKETKGKGSLEVLSLKDVVEEGDEKFE
Hsa	RFILPVNEGK-KLKEKLLPLKLVIESEDYG--CQ-LEIVCLIDPGCFREIDELIKKETKGKGSLEVLNLKDVVEEGDEKFE
Ola	RLQPLPAKEAK-RLKEKLLPLQLQVVESEFD--EE-LEMICLVDPGCFREIDELIRCTKGKGSLEVLSLKDVVEEGEEKM
Sce	KVAISEPSRQPELIEKISKLIASSPGESTKPELDPWTCTGLIDPVNYRDLMTLCDK---KG--TVQVLDMVIDNTHHN
Ecu	RVSVEMS----DKVAEFVKQNGEIHGG-----YVMIRSDCFPRFKDMCEKEKVR--YLLRREEPEDEEIC
Mac	AVKIPPEYAP-KAYGDISKV-GTITKEEWQD-DGSWIAVVRI PAGVQTDFYALINHLTKGEAQTKLL
Hnr	AVQLPADYAG-SGQAKLREF-GELEREENQA-DGSWVGVTTFPAGMQDEFYGRVNEVSEGNGETSVVKDKDELKTR
Mka	AIRIPAKYTG-QAMGVVREF-GDIEREEWQY-DGANVAVVRLPAGLQDEFFEKLNIEITKGFDFESKILE-RESVEGP
Mja	AVKIPAEFAS-KAYNALYQF-GAVKQBEWQP-DGSLIVLIEIPSGIEAEFYAHLNKITKGNVQTKVVKYKSE
Afu	AIKIPPEHTG-RAISALYNF-GGVTRBEWQR-DGSWICVMRI PSGMIGDMLLLKGAKVEKAGTKVLVRLL
Pab	AVKIPSEYVG-RAYGEVRKF-GRIKKEEWAS-DGSWLFIEIPGGVEEFYFKLNALTKGNAQTKLIERGL
Tac	AVKLIGDAYG-KLYGELAKS-GYM-KEEWGK-DGSWMGILEVPAGIQGDI IENLSRRGGDKVQIKILKQ
Pae	ALAVSSTYAG-RVKGVLVAKM-AKIVNERYKS-DGSWEALLENL PAGLQVVLIRAVNDVTHGDADIRILETVY
Sso	SVKIPSEYSS-KVKSQALHM-GEVKKAMWLE-DGTLAALEIIPAGAQQVDIKLNSITKGEVEVKVLQVR
Ape	EIKIPPHSG-RAYQALMRL-GEVKKADWLP-DGSLKAELEI PAGAQVEYTSRI OALRAGAAEVKKVKA

Ath QTHKPLLPAAETET--KDLDPFVVELSKKLQKQEI STTDNIKQEGGEEKKGT KCSTCNTFVGEAKQYREHCKSDWHKHNLRKTRKLPPI S
Gar+ QLPKDSAESASSRLPPSSDSVIQLSEKIQKHTIY--SGNGAEGEAKQ-HKSCSTCNAFVGDQKQYRDHFRSEWHKHNLRKTRQLPPLT
Pbat ALPK-----ESTDSAVQLSEKIQKQILS--DEK-KAGAEVKQ-NKCSTCNVSVGDAKQF

U1-like zinc finger

Ath ADECMSEIDMDDSRADLKDYSE
Gar+ AEECLADVELSDSKTOLQDYSE

5/20

1
|
M S

SBDS ggacggcgcggggtcagccctgggttcgccggcttctgggtctttgaacagccgcgATGTCG

SBDSP ggacggcgcggggtcagccctgggttcgccggcttctgggtctttgaacagccgcgatgtcg

MUSBDS gtttcagccgagcacttggcgctccctcgagctcgagatctgtgaacagccaccATGTCG

M S

Fig. 6

Replacement Sheet

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	I F T P T N Q I R L T N V A V V R M K R
SBDS	ATCTTCACCCCCACCAACCAGATCCGCCTAACCAATGTGGCCGTGGTACGGATGAAGCGT
SBDSP	atcttcacccccaccaaccagatccgcctaaccaatgtggccgtgggtacggatgaagcgc
MUSBDS	ATCTTCACCCCCACCAACCAGATCCGACTGACCAATGTGGCCGTGGTACGGATGAAGCGG

	I F T P T N Q I R L T N V A V V R M K R
	A G K R F E I A C Y K N K V V G W R S G
SBDS	GCCGGGAAGCGCTTCGAAATCGCCTGCTACAAAAACAAGGTCGTCGGCTGGCGGAGCGGC
SBDSP	gccaggaagcgcttcgaaatcgccctgctacagaaacaaggctcgtcggctggcggagcggc
MUSBDS	GGAGGGAAGCGCTTCGAAATCGCCTGCTATAAAAAACAAGGTCGTCGGCTGGCGGAGTGGC

	G G K R F E I A C Y K N K V V G W R S G
	128
SBDS	GTgtgagtagccccctccctcgggcctgggcctgggcctgagccgtcacctccgagggcg
SBDSP	ttgtgagtagccccctccctcgggcctgggcctgggcctgagccgtcacctccgagggcg
MUSBDS	GTgtgagtaatcctgtgccagagttcggcggcctggcctccctaaccgccgtcctgcg

SBDS	cctgtctctgcccaagtcgagtggaatgggccaggctggggtgtt---ggccggggagga
SBDSP	cctgtctctgcccaagtcgagtggaatgggccaggctggggtgttgggtggccggggagga
MUSBDS	accatcggtacctttcaggcctgggtttaccgattcggattgggttctgctttgggatt

SBDS	aatggaacattcctgctgtgagcatgagacgtcgctgtccgagcttggcgctaagccaa
SBDSP	aatggaacattcctgctgtgagcatgagacgtcgctgtccgagcttggcgctaagccaa
MUSBDS	ttgttagtatcataaaaactgccaactacaaacgcatcagagccgggtgggaccgatgg

	← SDCR9x1seqRev
SBDS	gggtttcttctttatgttggttcggattgggttgggttgggttgggttgggttgggtt
SBDSP	gggtttctt---tatttggttggttcggattgggttgggttgggttgggttgggttgggtt

Fig. 6 (cont.)

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SBDS ggtgtcataaaagctgcagccaagaaatctcgtaattgtggctccttttcctagaataatg
 |||||
 SBDSP ggtgtcataaaagctgcagccaagaaatctcataattgtggctccttttcctagaataatg
 |||||
 MUSBDS gccagcctggaacgtgtgtgtgtgtatgtgtatgtgtgtgtgtgtgtgtatgtgt

← Primer B (SDCR9x1BR)

SBDS	atggcgtgagaacctagtcttacgaatactgtcatag
SBDSP	atggcgtgagaacctagtgttcgaatactgtcatag
MUSBDS	atgtgtgtgtgagagagaccgtgaccgaccctgtac

Primer E (SDCR9x2BF) →

Figure 2 (continued)

	SBDS	SBDSP	MUSBDS
SBDS	<u>aaatggttaaggccaatacaggttctgagttttgaaaatgttccctcaggccgatcggggca</u>		
SBDSP	aaatggttaaggccaatacaggttctgagttttgaaaatgttccctcaggccgatcggggca		
MUSBDS	gtagtgtcttcgtactgtccatctaggqacagatatccaggacagaagaaacaccactc		

SBDS gttcacttgaggccaggagttcgaggccagcctggccaacatgaaaccccattcttacta
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
SBDSP gatcacttgaggccaggagttcgaggccagcctggccaacatgaaacaccattcttacta
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
MUSBDS cccaccacaccctgaqtttccttacataaaaacaatgatgtagtgttttccctctgtggtga
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SBDS aaaatacaaaagttagccgggtgtggtggcgcacatgcctgtaatcccagttactcaggagggc
 |||||
 SBDSP aaaatacaaaattagccgggtgtggtggcgcacatgcctgtaatcccagctactcaggagggc
 |||||
 MUSBDS aqtqqaqaatccagatactgtccttcgcaggttagccaccagagagagagtgtggtgtgt

SBDS tgaggcgggagaatcacttgaacccgggaggtgaggttacagtgaccgcgagatcgcgcc
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
SBDSP tgaggcaggagaatcacttgaacccgggagcgagcttcagtgagccgagatcgcgcc
 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
MUSBDS gtgtgtgtgagattttctctttttttttttcttttagggtttttgtttttgtttttttttgtt

Fig. 6 (cont.)

Replacement Sheet

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SBDS attgcactccagcctgggcaaaaacagtgaaattccatctagggcgggggttggggggt
 SBDSP attgcactccagcctgggcaaaaacagtgaaattccatctaaggcgggg---ggggggg-
 MUSBDS ttgtttgggttttttttttttttttttttgagactggcctcaaactcccaatttccttgcc

Primer C (SDCR9/SDCR9Lx2)→

SBDS aagaaaaagaaaactgccctctacactaaagggtcatcagggggatttgttgtgtcttgcc
 SBDSP -----aagaaaactgccctctacactaaagggtcatcagggggatttgttgtgtcttgcc
 MUSBDS tctgcctcctaaatggtgagttacagatgtgcacatcacaccagcttgagcacttgcc

Primer 0 (SDCR9/SDCR9Lx2-3F)→

SBDS gttcatgttgttgccatctcgtattttaaatgtaaatgcatgtccaaagtttcaagtatatt
 SBDSP gttcatgttgttgccatctcgtattttaaatgtaaatgcatgtccaaagtttcaagtatatt
 MUSBDS atttctcttgttgctatcttgtgtttaaatgtgagtggttttcttactatccagtggat

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V E K D L D E V L Q

SBDS cacataggactttctctcctgccctcacaagGGAAAAAGACCTCGATGAAGTTCTGCAGA
 SBDSP cacataggactttctctcctgccctcacaagggaaaaagaccttgatgaagttctgcaga
 MUSBDS cacataggactttctctcctgccctttcaagGGAAAAAGACCTTGATGAAGTTCTGCAGA

V E K D L D E V L Q

T H S V F V N V S K G Q V A K K E D L I
 SBDS CCCACTCAGTGTGTTGTAAATGTTCTAAAGGTCAGGTTGCCAAAAGGAAGATCTCATCA
 SBDSP cccactcagtggttgtaaatgtttcctaagggtcaggttgccaagaaggaagatctcatca
 MUSBDS CCCATTCAAGTGTGTTGTAAATGTTCCAAAGGTCAGGTTGCCAAGAAGGAAGACCTCATCA

T H S V F V N V S K G Q V A K K E D L I

Replacement Sheet

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S A F G T D D Q T E I C K Q

SBDS GTGCGTTTGGAAACAGATGACCAAACCTGAAATCTGTAAGCAGgtgggtaacagctgcagca
 SBDSP gtgcgttttggaaacagatgaccaaactgaaatctgtaagcaggcgggtaacagctgcagca
 MUSBDS GTGCATTGGGACAGACGACCAGACTGAAATCTGCAAGCAGgttaggtcctgccaggtgca

S A F G T D D Q T E I C K Q

SBDS tagctaaccctaataaccattttataacgtattttagatatattaaacattaaaggctgt
 SBDSP tagctaaccctaataaccattttataacgtattttagatatattaaacattaaaggctgt
 MUSBDS atgtaacaaaatctcacgatggtaggaacatctggaccactgtgtttactgtttttctt

← Primer D (SDCR9/SDCR9Lx2R)

SBDS ttttctggaggaaagactaaccaagcaataatgtgaactgcacagtgtcacttctaataa
 SBDSP ttttctggaggaaagactaaccaagcaataatgtgaactgcacaaatcacttctaataa
 MUSBDS gatgagttttgtgtgttttagcatttgttgggtccctcccacctccagtttatattgttg

← Primer F (SDCR9x2BR)

SBDS taaagaacttggt
 SBDSP taaagaacttggt
 MUSBDS ggcaatttgggga

SBDS Exon 3: (SEQ ID NO: 37)

Primer G (SDCR9x3BF)→

SDCR9x3CF

→

SBDS gctcaaaccattacttacatattgatagctggagaggatgaaatttaattttctctccat
 SBDSP gctcaaaccattacttacatattaatagctggagaggatgaaatttaattttctccca-
 MUSBDS tgtaagctgctgctgggttaaggcagcacgtggttctgcgtgagcagctgcagtgaggcgc

SBDS ccagttactcattttttatgggttagttaataaatagtgtgtgatagagaaagatagtgat
 SBDSP ---gttactcattttttgtcgttagttaataaatagtgtgtgatagagaaagatagtgat

Fig. 6 (cont.)

10/20

MUSBDS cgctcccttctccccgctacctacctgtgcagtagagagataccagaactgatgagg

[illegible]

Primer T (RTSDCR93F) →

	K	E	R	H	T	Q	L	E	Q	M	F	R	D	I	A	T	I	V	A	D
SBDS	<u>AAAGAAAGACACACACA</u> <u>ACTGGAGCAGATGTTTAGGGACATTGCAACTATTGTGGCAGAC</u>																			
SEDSP	aaaga----cacacacaactggagcagatgtttagggacattgcaattattgtggcgagac																			
MUSBDS	<u>AAAGAACGGCACACACAGCTGGAGCAGATGTTTAGGGATATCGCCACCATTGTGGCAGAC</u>																			
	K	E	R	H	T	Q	L	E	Q	M	F	R	D	I	A	T	I	V	A	D

	K	C	V	N	P	E	T	K	R	P	Y	T	V	I	L	I	E	R	A	M
SBDS	AAATGTGTGAATCCTGAAACAAAGAGACCATAACACCGTGATCCTTATTGAGAGAGCCATG																			
SBDSP	aaatgtgtgactcctgaaacaaagagaccatacacccgtgatccttattgagagagccatg																			
MUSBDS	AAGTGTGTGAACCCGAAACAAAGAGACCTTACACCGTTATCCTCATCGAGAGAGCCATG																			
	K	C	V	N	P	E	T	K	R	P	Y	T	V	I	L	I	E	R	A	M

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← Primer S (RTSDCR93R)

K D I H Y S V K T N K S T K Q Q

SBDS AAGGACATCCACTATTTCGGTGAAAACCAACAAGAGTACAAAACAGCAGgtgagtgggtttc

SBDSP aaggacatccactattttggtgaaaaccaacaggagtacaaaacagcaggtgagtgggtctc

MUSBDS AAGGACATCCACTACTCCGTGAAACCCAACAAGAGCACAAAGCAACAGgtaagggttcct

K D I H Y S V K P N K S T K Q Q

[illegible]

Replacement Sheet

11/20

MUSBDS tggtgtcctcgggacctaaggccatggaagtgcctgatgcgcctgcctccctatctctgg

SBDS gggctctggggccaggcacaatgggttcacgctgtaatcctagcactttgggagccaagat

SBDSF gggctctggggccaggcacaatgggttcacacccgtaatcctagcactttgggagccaagat

MUSBDS tgctggggtcagcagcacacacttcaggctgcctggctgtgctgggtgctcatcattctg

SBDS gggaggattgcttgaggcctggaaacagcctgggaaacatagggacgccccatctctaaa

SBDSF gggaggattgcttgaggcctggaaacagcctgggaaacatagggacgccccatctctaaa

MUSBDS agcagaccctctcccggtgagccataacccttagctgctgctcctcagtgtagcgaaca

SBDS tttttttttt-----ttttt---tgagacagagtcttactctattgccaggctg

SBDSF ttttttgtttattgttgtttttgtttgagacagagtcgactgtgttgccaggctg

MUSBDS caaatacacacagaactctttttgtttgtttgtttgtttgggggtttttttttttttt

SBDS gagtgcagtagtatgatctcggtcac-tacaatctccacctcccggttcaagcaagtc

SBDSF gagtgcagtggaagatctcggtcacttacaatctccacctcccggttcaagcaagtc

MUSBDS ttagtttgtttttgttcttcgagacagggtttctctgtattgcctgggtgtcctgga

SBDS tcctgcctcagcctcctgagtagctgggattataggcacgtgccaccacactcagcta

SBDSF tcctgcctcagcctcccaagtagctgggattataggcacgcgccaccacaccagcta

MUSBDS actcgtctgtagcccaggctggcctcgaactcagaaatecgctgcctctgcctccaa

SBDS tttg-tatttttagtagagttgaggtttcaccatgttggccaggctgggtcttgaactcct

SBDSF tttgtatttttagtagagttgaggttttaccatgttggccaggctgggtcttgaactcct

MUSBDS gtgctgggattaaaggcgtgggccaccacacctggctcatacagaactcttatttctg

SBDS gaccctaggtgatccgtccgccttggcctcccaaagtgtgggattacaggcatcagcta

SBDSF gacctcaggtgatccgtccgccttggcctcccaaagtgtgggattacaggcatcagcta

Fig. 6 (cont.)

Replacement Sheet

12/20

MUSBDS ccagctcaaacctttaagagaaagcttggactttgagtcacctgagcccttttgctgtt

SBDS ccgtaccctacctctaaatttttaataataaaaaattaaatttaaaaaaatgggtctgca

SBDSP ccgtaccctacctctaaatttttaataataaaaaattaaatttaaaaaaatgggtttgca

MUSBDS tgtgtttattaacatatttcctacagctcagccctgtcacgccagccattctgctggcct

← Primer H (SDCR9x3BR)

SBDS tggaagcaagtg

SBDSP tggaagcaagtg

MUSBDS ggattccaagca

SBDS Exon 4: (SEQ ID NO: 38)

Primer I (SDCR9x4CF) →

SBDS aaaggggtcattttaacacttctttttgaatttttaatttatatataattcacataccat

SBDSP aaaggggtcattttaacacctctttttgaattttcaatttacatataattcacatacaat

MUSBDS ctcaaaagaaataacaagtcgggtgtggtggtgcacacctttaatcccagcactcgggag

SBDS aaatttcacactcataaagtgtgtacactttaagtgggtatattaacaaagttttggaacc

SBDSP aaatttcacactcataaagtgtgtacactttaagtgggtatattaacaaagttttggaacc

MUSBDS gcagagggcaggcgaattttctgagttggaggccagcctgagttccaggacagccagggcta

SBDS ttccctgctacctgggttcgagaacattttcatcaccacaaaaagaaagtcagtatccatt

SBDSP ttccctgctacctgggttcgagaacattttcatcaccacaaaaagaaagtcagtatccatt

MUSBDS tacagagaaaccctgtctcgaaaaaccccccccccccccccccccccccccccccccccccc

Fig. 6 (cont.)

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SBDSP

Fig. 6 (cont.)

Replacement Sheet

14/20

MUSBDS ccccgctctcctccacatccagctgccagtgactgacgctgcctgcggtcagtgccagag

SBDS taatacttgtcattgtctgcctttttgatgatggccatcctgggtggtatcttgtcgtggt
 SBDSP taatacttgtcattgtctgcctttttgatgatggccatcctgggtggtatcttgtcgtcgt
 MUSBDS gtgccaaggcaaggcctgtgaggaccttactgtgtatcactaggcgtccagcactctg

SBDS tttgatttgcatttccttaataatgatgatttgagcatatttccatgtgcttattgggtgcctc
 SBDSP tttgatttgcatttccttaataatgatgatttgagcatatttccatgtgcttattgggtgcctc
 MUSBDS gatgactgttatttagactttcaggaagccactagtcttcttaccagtgacagcttctc

SBDS gtctgtcttcttttgagaaatctctgttcagggttctttgccc-----a---c-c-c---
 SBDSP gtctgtctgtcttttgagaaatctctgttcagggttctttgccccctttttattctcgtctc
 MUSBDS aggcacgggtgtccacagagtgggaaggcccttgctggacggctggtgggaagctctggg

SBDS --c-ccc---c-----gc-----c-c--tct---t-tttgcaaactctgcctcccga
 SBDSP gtcacccagactagagtgcagtgccgatctcggtcattgcaaactctgcctcccga
 MUSBDS ccatcttcccaaggagcatgtctctgtctcaccactgttagaattactgtgaactcagc

SBDS ttcaagcaattctcctgcctcagcctcttgagtagctgggattacaggcgtgcactacca
 SBDSP ttcaagcaattctcctgcctcagcctcttgagtagctgggtactacaggcgtgtgtacca
 MUSBDS tatgggctcaggctcctcaagggtcatggcttaaaacagggttggcttagaagtctccgag

SBDS caccgggctaatttttcttttttgtatttttagtgagacggggtttcaccatgttggc
 SBDSP caccgggctaatttttcttttttgtatttttagtgagacggggtttcaccatgttggc
 MUSBDS gccaaacaaaagacattttgtctgttctagagatgtacgaaattccaccgcacacattt

SBDS caggctggctctcgaattcctgaccttgatgacccgcctcggcctcccaaagtgtctgg
 SBDSP caggctggctctcgaattcctgaccttgatgacccgcctcggcctcccaaagtgtctgg
 MUSBDS tcttgcttttagagagctgaggacagccaggctcctcgtgcatgctgggtagttgcttca

Fig. 6 (cont.)

SDCR9x4seqB →

SBDS aattacagggcgtgagccaccacacctggccttcactttcttcatagttttttgaacaca
 |||||
 SBDSP gattagagggcgtgagccaccacacctggccttcactttcttcataattttttgaacaca
 |||||
 MUSBDS ccactgaactgagtcccagcctttaacgttgctttctgccgaagcaaaaattattttttt

SBDS aaagcttttcttcttgataagtccaatttttctatttttttttaacggtcacttatgtt
 |||||
 SBDSP aaagcttttcttcttgataagtccaatttttcta-ttttttttaacggtcacttatgtt
 |||||
 MUSBDS ttccatttcacaaaatgagacactagctcatttttaggtatttctaggattgctggtac

SBDS cttaatgttatacctaagaaaccattacctaataccaactacatggaaactactttgtttt
 |||||
 SBDSP cttaatgttatacctaagaaaccattacctaataccaactacatggaaactactttgtttt
 |||||
 MUSBDS cttggctgtaaaactgctggcataaggcagctatgtggaaactgctttgttcatgtctaa

460

SBDS tgaaaaccttatgaaataatatagtagaagaaattgcattctcgattttgtcttggttagG
 |||||
 SBDSP tgaaaaccttatgaaataatatagtagaagaaattgcattctcgattttgtcttggttagG
 |||||
 MUSBDS catataaatttgtgcagcacaaaaactaagtaacgagcacccttgttctgtcttaaagG

A L E V I K Q L K E K M K I E R A H M R

SBDS CTTTGGAAGTGATAAAGCAGTTAAAGAGAAAATGAAGATAGAACGTGCTCACATGAGGC
 |||||
 SBDSP ctttggaagtgataaagcagttaaaagagaaaatgaagatagaacgtgctcacatgaggc
 |||||
 MUSBDS CTTTGGAAGTGATAAAGCAGCTGAAAGAGAAGATGAAGATAGAGCGGGCCACATGCGAT

A L E V I K Q L K E K M K I E R A H M R

L R F I L P V N E G K K L K E K L K P L

SBDS TTCGGTTCATCCTTCCAGTCAATGAAGGCAAGAAGCTGAAAGAAAAGCTCAAGCCACTGA
 |||||
 SBDSP ttcagttcatccttccagtgaatgaaggcaagaagctgaaagaaaagctcaagccactga
 |||||
 MUSBDS TGCGCTTCATCCTGCCAGTGACGAAGGGAAGAAGCTGAAGGAGAAGCTGAAGCCACTGA

Fig. 6 (cont.)

L R F I L P V N E G K K L K E K L K P L

624

I K V I E S E D Y G Q Q L E I

SBDS TCAAGGTCATAGAAAGTGAAGATTATGGCCAACAGTTAGAAATCgtaagagtcaaatatt
 |||||
 SBDSP tcaaggatcatagaaagtaaagattatggccaacagttagaaatcgtaagagtcaaatatt
 |||||
 MUSBDS TGAAGGTGGTGGAGAGTGAGGACTACAGCCAGCAGCTGGAGATCgtaagatgatgggtggc
 M K V V E S E D Y S Q Q L E I

SBDS ttctttgcttcatgttacctaaatattgtattctctagtaataaattttagcaaacatt
 |||||
 SBDSP ttctttgcttcatgttacctaaatattgtattctctagtaataaattttagcaaacatt
 |||||
 MUSBDS ggggagcaggtggcgagccaaggtcccatgattatgaccttaacacattattattcttg

← Primer J (SDCR9x4CR)

SBDS tagatgttgtaaac-gtcagatattttc
 |||||
 SBDSP cagacattgtaaacagtcagatattttc
 |||||
 MUSBDS gcttccttctacccaatatgcctcgttc

SBDS Exon 5: (SEQ ID NO: 39)

Primer K (SDCR9x5CF) →

SBDS tccactgttagatgtgaactaactcatctgacactacttgaagttctaaaatctttgcaaa
 |||||
 SBDSP tccactgttagatgtgaactaaccatctgacactacttgaagttctaaaatctttgcaaa
 |||||
 MUSBDS gtatactgtggctgtcttcagacacagcagaaggcatcggtaccattacagatggttgt

SBDS actgtacacatgggccaggcacagtggtcgtgcctgtaatcccagcactttgggaggcc
 |||||
 SBDSP actgtacacgtgggccaggcacagtggtcgtgcctgtaatcccagcactttgggaggcc
 |||||
 MUSBDS gagccacttgtggttgctgggaattgagctcagaacctctggaagagcagccagtgctga

SBDS aaggtgagcagataacatggtgaaaccctatctctactaaaaatacaaaaaataagccag
 |||||

Replacement Sheet

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SBDS	gagggcagcagataaacacgggtgaaaccctgtctctactaaaaatacaaaaaataagccag
MUSBDS	gcattctctacagcctctgaaccagggtcttgatgctaagcagtgctcactctcagtatg
SBDS	gtgtggtgggtggg-ttctgtaatcccagtttcttgggagggtgaggcaggagaatcact
SBDS	gtgtggtgggtggggt-ctgtaatcccagtgcttgggaggccgaggcaggagaatcact
MUSBDS	agctgcagcactggccagggtgagtcttcaagggtgtcttaatcaggcttttactgctgtg
SBDS	tgaacctgggaggcggagggtgcagtgagccaagatcacaccactgcactctatctc-aa
SBDS	tgaacctgggagggtggagggtgcagtgagccaagatcacaccactgcactctatctcaaa
MUSBDS	aacagacaccaggaccaatgcaagtcttataaagaacaacatttagttgagtcctggctta
SBDS	aaaaaaat--aa-attaacatacacatgggtgtctacataagtcttcacattgcttttct
SBDS	aaaaaaataaaacaaaaacatacacatgggtgtctacgtaagtcttcacattgcttttct
MUSBDS	caggttcagaggttcagtcattatcaagggtgggagcatggtagtatccaggtgggaatg
SBDS	ccttcatacgtggagggtgactttactgagctataaaatgtaatgctaaatttttagtatga
SBDS	ccttcatacgtggagggtgactttactgagctataaaatgtaatgctaaatttttagtatga
MUSBDS	atacaggaggggctgagagttcgacatcttcatctgaaggctgctagcagaatactgact
SBDS	gaagaatcagagttttctagtttgtcccttcatttacagctgaagaatcagaataagt
SBDS	gaagaatcagagttttctagtttgtcccttcatttacagcgggaagaatcagaataagt
MUSBDS	tcgaggctgttaggatgagggtcttaaagcctatgaccacagggacacaccttctaatag
SBDS	tttaaacatagggattaatgccttgtcacagggggctacatggacacttgagggcagagg
SBDS	tttaaacatagggattaatgccttgtcacagggggctacatggatacttgagggcagagg
MUSBDS	tgtcactccccgggctgagcatatacaaacgtaaacacgggataagtgcctttcccaaag

Fig. 6 (cont.)

Replacement Sheet

18/20

SBDS ctaaactggaaccagtggtgccgcctaccattgtcttattcattgcaccatagaactg
 |||||
 SBDSP ctgaactggaaccagtggtgccgcctaccattgtcttattcattgcaccatagaactg
 |||||
 MUSBDS tccaacagtaggtgcttagaatcgagacagaaccccaggcccgctgctgccctggcct

SDCR9x5Fseq →
 SBDS tggattattagagatctggacagcattgtgcttgcctcaaaggaagttaaagctgagtt
 |||||
 SBDSP tggattat---gagatctggacagcattgtgcttgcctcaaag---ttaagctgagtt
 |||||
 MUSBDS ccatgtgagcagcacctagaacacagtcatagatctgccctgagcattcaaactgggctt

625
 |
 V C
 SBDS tattctgtgtcttctcctcatcctcatgtggttaactctgctacgttaaagtgtttcagGTATGT
 |||||
 SBDSP tattctgtgtcttctcctcatcctcatgtggttaactctgctacgttaaagtgtttcaggtatgt
 |||||
 MUSBDS attctgtgccgatgcccatcttcccttggaaaccagctgtgttactcattgcagGTGTGC
 |||||
 V C

L I D P G C F R E I D E L I K K E T K G
 SBDS CTGATTGACCCGGGCTGCTTCCGAGAAATTGATGAGCTAATAAAAAAGGAAACTAAAGGC
 |||||
 SBDSP ctgattgacctgggctgcttccgagaaattgatgagctaataaaaaaggaaaccaaaggc
 |||||
 MUSBDS CTCATCGACCCAGGCTGCTTCAGAGAAATTGATGAGCTAATAAAAAAGGAAACGAAAGGC
 |||||
 L I D P G C F R E I D E L I K K E T K G

750

K G S L E V L N L K D V E E G D E K F E
 SBDS AAAGGTTCTTTGGAAGTACTCAATCTGAAAGATGTAGAAGAAGGAGATGAGAAATTTGAA
 |||||
 SBDSP aaaggttctttggaagtactcaatctgaaagattt-gaagaaggagatgagaaatttgaa
 |||||
 MUSBDS AGGGGTTCTCTGGAAGTGCTCAGTCTGAAGGACGTGGAGGAAGCGGATGAGAAGTTTGAA
 |||||
 R G S L E V L S L K D V E E G D E K F E

SBDS tgacacccatcaatctcttcacctctaaaacactaaagtgtttccggtttccgacggcact
 |||||
 SBDSP tgacacccatcagtcctcttcacctctaaaacactaaagtgtttccggtttccaacagcact

Fig. 6 (cont.)

Replacement Sheet

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MUSBDS T G A c a c c g c c c g g c t c c t c a a c t g g a g c a c g a c c g a g g a c g c t t g t t c c t c a c a g c a g c a

SBDS g t t t c a t g t c t g t g g t c t g c c a a a t a c t t g c t t a a a c t a t t t g a c a t t t t c t a t c t t t g t
 SBDS g t t t c a t g t c t g t g g t c t g c c a a a t a c t t g c t c a a a c t a t t t g a c a t t t t c t a t c t t t g t
 MUSBDS g c t c g t t c t g t g a c c t g c c a a a c g c c c t g c t c a c g c a c g t g c c a c t t t c c a t c t t g t g t

SBDS g t t a a c a g t g g a c a c a g c a a g g c t t t c c t a c a t a a g t a t a a t a t g t g g g a a t g a t t t g g
 SBDS g t t a a c a g t g g a c a c a g c a a g g c t t t c c t a c a t a a g t a t a a t a t g t g g g a a t g a t t t g g
 MUSBDS t a a c a t t t a c c c a g g t a c c t g g g t a t t t t g t t g t c a a t t g g g g t t t c c a g c a a a a t g

SBDS t t t t a a t t a t a a a c t g g g g t c t a a a t c c t a a g c a a a a t t g a a a c t c c a a g a t g c a a a g t
 SBDS t t t t a a t t a t a a a c t g g g g t c t a a a t c c t a a g c a a a a t t g a a a c t c c a g g a t g c a a a a t
 MUSBDS a a a a t a a c c t a a a a t a c a g a g t c c a g a a c a g c t g c t c a c t g c t g c g t c t g c c t t t c t a g

← Primers L/R (RTSDCR95R/SDCR9x5BR)

SBDS c c a g a g t g g c a t t t t g c t a c t c t g t c t c a t g c c t t g a t a g c t t t c c a a a a t g a a a g t t a c
 SBDS c c a g a g t g g c a t t t t g c t a c t c t g t c t c a t g c c t t g a t a g c t t t c c a a a a t g a a a g t t a c
 MUSBDS t t c c a g g g g a c c a g a g a c a g c a t t g g t g g a t a a g a g g t a g a g t t a g t c c a t g a c a g a t c

SBDS t t g a g g c a g c t c t t g t g g g t g a a a a g t t a t t t g t a c a g t a g a g t a a g a t t a t t a g g g g t a
 SBDS t t g a g g c a g c t c t t g t g g g t g a a a a g t t t t t t g t a c a g t a g a g t a a g a t t a t t a g g g g t a
 MUSBDS a t t g g a g a g g g t c t g a a t a a c a a a g g g g t a c g c c t g c t g g a a a g a g a t g g g g t g t t t

SBDS t g t c t a t a c a a c a a a a g g g g g g t c t t t c c t a a a a a g a a a c a t a t g a t g c t t c a t t t c
 SBDS t g t c t a t a c g a c a a a a - g g g g g g t c t t t c c t a a a a a g a a a c - - a t g a t g c t t c a t t t c
 MUSBDS c t g a a t a a t g a a g t g c a g g t a t g g g g t g t g a g c a t g g a g a g a a g a g t t c c t g g g t c c c t c

Fig. 6 (cont.)

SBDS	tacttaatggaacttgtgttctgagggtcattatgggtatcgtaatgtaaagcttggatga
SBDSP	tacttaatggaacttgtgttctgagggtcattatgggtatcgtaatataaagcttggatga
MUSBDS	ccaatagatttataatgactagggagaatttgactttctaattttcaaccaacatgctac

SBDS	tgttcctgattatctgagaaacagatatagaaaaattgtgccggac-t---tacctttca
SBDSP	tgttcctgattatctgagaaacagatatagaaaaattgtgtcggacttaaataattttcg
MUSBDS	caaaactgacttagattattcttgggaaaatatatacagtcatttaataactaattcttaa

SBDS	ttgaacatgctgccataacttagattattcttggttaaaaataaaaagtcacttatttct
SBDSP	ttgaacatgctgccataacttagattattcttggttaaaaataaaaagtcacttatttct
MUSBDS	agggttataatatatgttagtatagttaaaattctatgtaatcaataaaaacttattttta

(polyadenylation

site)

SBDS	aattcttaaagtttataatatattaatataagctaaaattgtatgtaatcaataaaaacc
SBDSP	aattcttaaagtttataatatattaatataagctaaaattgtatgtaatcaataaaaacc
MUSBDS	c

(end of human transcript, mRNA of 1605nt)

SBDS	actcttatgtttattaaactatggcttgtgtttctagacaacttcctaactccctttctt
SBDSP	actcttatgtttattaaactatggcttgtgtttctagacaacttcctaactccctttctt

SBDS	ttctc
SBDSP	ttctc